

The Determinants of Bank Net Interest Margins, Profitability and Non-performing Loans: Panel Evidence from South Asian Countries

著者	ISLAM MD. SHAHIDUL
号	21
学位授与機関	Tohoku University
学位授与番号	経博第169号
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論文内容の要旨

The study presents the determinants of the bank profitability, net interest margins and the non-performing loans with the panel evidence from four South Asian countries i.e., Bangladesh, India, Nepal and Pakistan.

Earning profit and remaining profitable is very important to the bank management and its other stakeholders in particular and the national and the global economy as a whole. Modern banking business has been changed significantly both in theory and in practice after experiencing the numerous competition within the industry and from outside the industry, global economic crisis, rapid technological advancement and many other factors. As principle, banks accept the deposits from the surplus units of the society and extend loans and advances to the deficit units. But the theoretical definition of the bank and its business has been evolved due to the insertion of the economic theories over the time. The literature of the banking studies have been enriched due to the influential economic theories of asymmetric information, adverse selection issues, moral hazard problems, risk avoidance and the cost preference hypotheses and the hedging principles in addition to the traditional banking practices.

In practice, the state of global deregulation and the rapid technological advancement have

added the increased notch of challenges for the banking business. The traditionally known ‘banking is the business of trust’ has been diversified and involved in many other activities like fund transfer, credit mechanism and many other off-balance sheet activities. Many non-bank financial institutions and even commodity producing industries and retailers have emerged in to the stage and taking the banks to the cutting edge competition. Also due to its nature of business, banking business is a highly regulated industry in an economy.

In this context, banks are facing continuous pressure to remain profitable. And in order to earn the optimum profit, a bank needs to increase the revenue and decrease the cost. We studied the determinants of banking profitability in general and the determinants of net interest margins as this is an important element of bank revenue and then the determinants of non-performing loans as this is a fixed cost burden. Another theoretical motivation for studying the determinants of net interest margins and the non-performing loans as these two variables found to be insignificant in the bank profitability determinants. So, we were curious to find out what are the particular determinants of bank interest margins and the non-performing loans.

For empirical reasons, we took sample of South Asian banks for number of reasons. Firstly, The South Asian countries are the home of 1.6 billion peoples among them 1.2 billion live in India. India is now the third largest economy in the world and the rest of the South Asian countries are also growing more than world average. In the region, we found that both nationalized and private commercial banks along with cooperative and specialized banks are operating with quiet competition. So, the sample of South Asian banks is lucrative for the research insight to the researchers now days. Secondly, among the sample countries, Bangladesh, India and Pakistan were the same country before 1947. We considered the similar socioeconomic and the regulatory environment of the countries and studied their banking data altogether. Finally, in the past and contemporary literature, we found many cross country studies for the determinants of banking profitability, net interest margins and the non-performing loans, but in case of South Asia, the present study is a unique addition to the banking literature.

In chapter one, we presents the motivation and the brief survey of literature of our study. The non-concluding evidence of the past empirical research motivates us to study the determinants of banking profitability, net interest margins and the non-performing loans. Higher profit by increasing the interest margins and also the mounting of non-performing loans in the bank-balance sheet are very costly to the bank management and to the society. We got the theoretical motivation for the preset study as we wanted to test the economic theories to come up with empirical evidence.

In chapter two, using the GMM estimator, we empirically studied the bank-specific, industry specific and macroeconomics specific determinants of bank profitability of 259 commercial banks in the South Asian countries (Bangladesh, India, Nepal and Pakistan) for the period of 1997–2012. Empirical results show a low level of profit persistence and a late-hit of the global financial crisis in

the banking sector in the region. We found no evidence for the traditional SCP hypothesis in relation to banking profit but financial solvency and managerial excellence have positive affiliation that support the cost preference hypothesis where higher profit of a firm is appropriated by the management of the firm. Cost of fund, liquidity, funding gap, term structure of interest rate and economic growth rate found negative influence while rate of inflation positively affect bank profit. Also to report that South Asian banks are operating with ‘inefficient’ manpower.

Chapter three discussed the determinants of net interest margins of banks (NIMs) in four South Asian countries (Bangladesh, India, Nepal and Pakistan) in the period 1997–2012 using panel data of 230 banks. The study is in line of Ho–Saunders (1981) dealership model and its later expansions but extended the model by adding new variable the relative size of the banks and also classifying the determinants of interest margins as bank specific, industry specific and macroeconomic specific variables. We found evidence that the famous Gertler–Kiyotaki (2011) hypothesis that a bank with higher equity will charge lower is insignificant rather the opposite view significantly affect net interest margins. We also found that liquidity, required reserve and operating expenses to total asset ratios affect net interest margins positively while relative size of the banks, market power and economic growth affect inversely.

In chapter four we empirically studied the bank-specific, industry specific and macroeconomics specific determinants of non-performing loans of banks in the South Asian countries (Bangladesh, India, Nepal and Pakistan) for the period of 1997–2012. We found that moral hazard problems between the bank management and the depositors in addition to that between the bank management and the shareholders; and the adverse selection of borrowers by the bank significantly affect the bank credit risk. We also found evidence that bad management, cost inefficiency, income diversification, bank size, industry concentration ratio, inflation and GDP growth rate all significantly explain the levels of bank NPLs. Empirical results show a moderate degree of persistence of NPLs and a late-hit of the global financial crisis and regional shock in the banking sector of the region.

Our contemporary research on the determinants of the banking profitability, net interest margins and the non-performing loans will also have policy implications to the bank management, owners, depositors, clients and the regulators. Studies on a number of additional explanatory variables like the ownership structure, corporate tax rate, deposit insurance and the portfolio effect, those we could not test due to data limitation and potential multicollinearity problems could be apparently an interesting path for future research.

論文審査結果の要旨

本論文では、欧米地域に比してなぜ南アジア地域の金融機関が経営面において非効率的呢かを究明することを研究動機として、同地域の金融機関の利益率、利ざや、不良債権比率の決定要因に関する実証分析を行っている。まず第2章では、南アジア地域の金融機関の利益率について着目して、その決定要因について実証分析を行っている。南アジア地域の金融機関は、欧米の金融機関と比べて利益率が低い傾向にあるが、これはどこに要因があるのかを究明することが本章の狙いである。南アジア地域の金融機関230行の1997年から2012年までの財務情報をパネルデータ化し、利益率の決定要因を金融機関自身、産業全体、マクロ経済の3つの要因に分類した上でダイナミック・パネル回帰分析を行った結果、世界金融危機に起因する利益率への影響が危機の発生から1～2年程度遅れて南アジア地域に波及したとの実証結果を得た。これは南アジア地域の金融機関が、欧米の金融市場からある程度分断されている可能性を示している点で興味深い。また南アジア地域の金融機関では、欧米に比べて、行員一人当たりの利益寄与度が低いという実証結果も得られた。これは南アジア地域において行員の業務効率が悪く、利益率を圧迫する経営管理上の要因となっている可能性が示されており、南アジア地域の金融機関の非効率性を説明する上で重要な発見である。

次に第3章では、南アジア地域の金融機関の利ざや(貸出金利と預金金利の差)に着目し、その決定要因について実証分析を行っている。利ざやの決定要因としては、金融機関自身の要因、産業全体の要因、そしてマクロ経済要因の3つに分けた上で、パネル回帰分析を行っている。その結果、南アジア地域においては金融機関の資産残高が利ざやの重要な決定要因であるとの実証結果を得た。また、近年の金融経済学分野での有力な仮説として金融機関の債務比率が高い程、利ざやが大きくなるという仮説(Gertler and Kiyotaki(2011)など)が提示されているが、本論文の実証分析ではむしろ金融機関の債務比率が高い程、利ざやが低下するとの実証結果を得ており、伝統的な理論であるHo and Saunders(1981)の仮説を支持する結果となった。これは少なくとも南アジア地域ではGertler and Kiyotaki(2011)の理論が適切ではない可能性を示しており、近年の有力仮説の妥当性に一石を投じる結果であるとともに、南アジア地域の金融機関の特殊性を浮かび上がらせている点において意義深い。

最後に第4章では、南アジア地域の金融機関の不良債権比率に着目し、その決定要因について実証分析を行っている。前章と同様に決定要因を金融機関自身の要因、産業全体の要因、そしてマクロ経済要因の3つに分けた上でダイナミック・パネル分析を行った結果、金融機関自身の要因としては、自己資本比率・流動性比率・利子収益率が重要な要因であるとの結果を得た。特に不良債権比率と利子収益率との正の相関関係は注目に値する。Stiglitz and Weiss(1981)などの理論によれば、金融機関と企業との間に情報の非対称性が存在する場合、貸し出し金利が高いほど高リスクの企業を寄せ集める結果となり、クレジットリスクが上昇するという逆選択仮説が指摘されているが、不良債権比率と利子収益率の間に統計的に有意な正の相関性が存在するとの実証結果は、この仮説を支持するものと解釈できる。本章の実証結果は、金融機関の融資行動における逆選択の問題が、欧米のみならず

南アジア地域においても深刻な問題であるとの証拠を示しており、重要な発見であると評価できる。

本論文は主に実証研究に力点を置いた研究であるが、南アジア地域の金融機関の財務データを元に銀行行動論に関する新たな実証結果を提示しており、充実度の高い研究として評価される。よって、博士(経済学)の学位請求論文としての審査は合格とする。